CAUSTIC POTASH - ANHYDROUS

Slight Reactivity Hazard

1

Nonflammable

0

Highly Hazardous

3

Ratings based on NICSH "Identification System for Occupationally Hazardous Materials" (1974)

Electro Chemicals Division
Diamond Shamrock Corporation
1100 Superior Avenue
Cleveland, Ohio 44114
216/694-5000

Material Safety

449165

Diamond Shamrock

GENERAL INFORMATION
Anhydrous Caustic Potash is a white, hygroscopic corrosive solid with no distinct odor.

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I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME	REGULAR TELEPHONE NO. / EMERGENCY TELEPHONE NO
DIAMOND SHAMROCK CORPORATION	Contact Local Sales Office 216/357-7070

ADDRESS
Divisional Technical Center, P.O. Box 191, Painesville, Ohio 44077

TRADE NAME
CAUSTIC POTASH - Anhydrous

SYNONYMS
POTASSIUM HYDROXIDE - KOH

II HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
POTASSIUM HYDROXIDE	100	PEL* 2.0 mg/m³ for 15 minutes
*OSHA Permissible Exposure Limit (PEL)		

III PHYSICAL DATA

BOILING POINT, 760 MM HG: 1320°C, 2408°F	MELTING POINT	FREEZING POINT: 400°C, 752°F
SPECIFIC GRAVITY (H_2O = 1): 2.044 @ 20°C	VAPOR PRESSURE: 60 mm Hg @ 1013°C	
VAPOR DENSITY (AIR = 1): Not applicable	SOLUBILITY IN H_2O, % BY WT.: Completely soluble	
% VOLATILES BY VOL: Not volatile	EVAPORATION RATE (BUTYL ACETATE = 1): Does not apply	
APPEARANCE AND ODOR: Clear - no odor		
pH: 0.01 moles/liter has pH 12		

EC-CP-2a

V FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	AUTOIGNITION TEMPERATURE
None	Nonflammable

FLAMMABLE LIMITS IN AIR, % BY VOL.	LOWER	UPPER
	Nonflammable	Nonflammable

EXTINGUISHING MEDIA

Use carbon dioxide, "alcohol" foam or dry chemicals in areas where caustic potash is stored. Caustic potash is nonflammable.

SPECIAL FIRE FIGHTING PROCEDURES

Pressure-demand, self-contained respiratory protection and protective clothing should be worn by firefighters in areas where caustic potash is stored. Caustic potash is nonflammable.

UNUSUAL FIRE AND EXPLOSION HAZARD

None

V HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA

PEL = 2.0 mg/m³ for 15 minutes. Acute LD_{50} = 365 mg/kg (oral - rat)

ROUTES OF EXPOSURE

Caustic potash is a corrosive material.

INHALATION

Airborne concentrations of dust, mist, or spray of caustic potash may cause damage to the upper respiratory tract and even to the lung tissue proper which could produce chemical pneumonia, depending upon severity of exposure.

SKIN CONTACT

Caustic potash is destructive to tissues contacted and produces severe burns.

SKIN ABSORPTION

See "Skin Contact" above.

EYE CONTACT

Caustic potash is destructive to eye tissues on contact. Will cause severe burns that result in damage to the eyes and even blindness.

INGESTION

Caustic potash can cause severe burns and complete tissue perforation of mucous membranes of the mouth, throat, esophagus, and stomach if swallowed.

EFFECTS OF OVEREXPOSURE

ACUTE OVEREXPOSURE Burns, resulting in frequently deep ulceration and ultimate scarring.

CHRONIC OVEREXPOSURE

The chronic local effect may consist of multiple areas of superficial destruction of the skin or of primary irritant dermatitis. Similarly, inhalation of dust, spray, or mist may result in varying degrees of irritation or damage to the respiratory tract tissues and an increased susceptibility to respiratory illness.

EMERGENCY AND FIRST AID PROCEDURES **Object is to Seek Medical Attention Immediately.**

EYES Immediately flush eyes with large amounts of water for at least 15 minutes holding eyelids apart to ensure flushing of the entire eye surface. Washing eyes within 1 minute is essential to achieve maximum effectiveness. Seek medical attention immediately.

SKIN Immediately wash contaminated skin with plenty of water. This may be followed with a rinse with vinegar or dilute acetic acid (3% solution) if available. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. Seek medical attention immediately.

INHALATION

Get person out of contaminated area to fresh air. If breathing has stopped, artificial respiration should be started. Oxygen may be administered, if readily available. Seek medical attention immediately.

INGESTION

If swallowed, DO NOT induce vomiting. Give large quantities of water. If available, give several glasses of milk. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

NOTES TO PHYSICIAN

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VI REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY

Under normal use conditions, anhydrous caustic potash is stable.

INCOMPATIBILITY

When handling caustic potash, avoid contact with aluminum, leather, wool, tin, zinc, and alloys containing these metals. Do not mix with strong acids without dilution and agitation to prevent violent or explosive reaction.

HAZARDOUS DECOMPOSITION PRODUCTS

None

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

None

VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Stop leaks. Contain spill. Remove as much as possible (e.g., shovel up or remove by vacuum truck, if liquid). Neutralize remaining traces of material with dilute acid; then flush area with water followed by liberal covering of sodium bicarbonate. Reuse spilled material, if possible, otherwise place in a closed, labelled, container and store in a safe place to await proper disposal. Persons performing this work should wear adequate personal protective equipment and clothing. **Caution**: Caustic Potash may react violently with acids and water.

NEUTRALIZING CHEMICALS

Neutralize with any dilute inorganic acid such as hydrochloric, sulfuric, nitric, phosphoric, and acetic acid.

WASTE DISPOSAL METHOD

Dispose in accordance with all federal, state and local regulations concerning health and pollution. Dispose via approved chemical waste disposal method, if regulations permit.

VIII INDUSTRIAL HYGIENE CONTROL MEASURES

VENTILATION REQUIREMENTS

Good industrial hygiene practice dictates that the work area should be isolated and contained, and provided with adequate local exhaust ventilation or other controls to maintain the air concentration of caustic potash below 2.0 mg/m^3 as required by OSHA.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY (SPECIFY IN DETAIL)

Use NIOSH-approved respirator for dusts and mists.

EYE

Chemical splash goggles and face shield should be worn when working with or around caustic potash.

GLOVES

Gloves coated with rubber, synthetic elastomers, PVC, or other plastic should be worn when handling caustic potash to minimize skin contact.

OTHER CLOTHING AND EQUIPMENT

Hard hats, safety shoes, and rubber boots should be worn along with rubber apron when handling caustic potash. Safety showers and eyewash stations should be provided in all areas in which caustic potash is handled.

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IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS

DANGER!

Causes Severe Burns to Skin and Eyes

Do NOT get in eyes, on skin, on clothing.
Avoid breathing dust, mist, or spray.
Do NOT take internally.
Use with adequate ventilation and employ respiratory protection when exposed to dust, mist or spray.
When handling, wear chemical splash goggles, face shield, rubber gloves and protective clothing.
Wash thoroughly after handling.
Avoid contact with strong acids to prevent violent or explosive reactions.
Keep container closed.

First Aid:

In case of contact:

For eyes: Immediately flush with plenty of water for at least 15 minutes holding eyelids apart to ensure flushing of the entire eye surface. **Seek medical attention immediately.**

Skin: Immediately wash with plenty of water. If available, rinse with vinegar or dilute acetic acid (3% solution). Remove contaminated clothing and footwear. Wash clothing before reuse and discard footwear which cannot be decontaminated. **Seek medical attention immediately.**

Inhalation: Remove person from contaminated area to fresh air. If breathing has stopped, artificial respiration should be started. Oxygen may be administered if readily available. **Seek medical attention immediately.**

Ingestion: If swallowed, DO NOT induce vomiting. Give large quantities of water. If available, give several glasses of milk. NEVER give anything by mouth to an unconscious person. **Seek medical attention immediately.**

Special instructions for dissolving anhydrous caustic potash:

When making solution, **always** add slowly to liquid surface with constant stirring. **Never add the liquid to the caustic potash.**

Always start with lukewarm liquid (80°-100°F.) **Never** start with hot or cold liquid.

If caustic potash becomes concentrated in one area, or if added too rapidly, or if added to hot or cold liquid, a rapid temperature increase can result in **DANGEROUS** boiling and/or spattering which may cause an immediate **VIOLENT ERUPTION.**

Spill or Leak: Leaks should be stopped. Spills, after containment, should be shoveled up and removed to chemical waste area or removed by vacuum truck, if liquid. Neutralize residue with dilute acid, flush spill area with water followed by liberal covering of sodium bicarbonate. Dispose of wash water according to Federal, State and Local regulations.

For Industrial Use Only

OTHER HANDLING AND STORAGE REQUIREMENTS

Considerable heat is generated when water is added to caustic potash; therefore, when making solutions **always** add the caustic potash to the water with constant stirring. The water should always be lukewarm (80°-100°F) **Never** start with hot or cold water. If caustic potash becomes concentrated in one area, or if added too rapidly, or if added to hot or cold water, a rapid temperature increase can result in DANGEROUS BOILING and/or spattering or may cause an immediate VIOLENT ERUPTION. Caustic potash can react violently or explosively with acids and many organic chemicals.

Returnable containers should be shipped in accordance with supplier's recommendations. Return shipments should comply with all federal, state and DOT regulations. All residual caustic potash should be removed from containers prior to disposal.

More information on the hazards and handling of caustic potash appear in Diamond Shamrock Corporation's Caustic Potash Handbook EC-CP-1b.

DEPARTMENT OF TRANSPORTATION INFORMATION
PROPER SHIPPING NAME: Caustic Potash, Dry
HAZARD CLASS: Corrosive Material

PREPARED BY Diamond Shamrock Corporation
Technical Service Group

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